CLAIMS

What is claimed:

1. A light source comprising:

a light source head;

a first set of poles coupled to the head; and

a second set of poles coupled to the head, the second set of poles located between the first set of poles and a center of the head.

2. The light source of claim 1, wherein the first and second set of poles are adjustable to change characteristics of the light source.

3. The light source of claim 1, wherein the second set of poles comprises four poles approximately equidistant from each other.

4. The light source of claim 3, wherein the four poles have an elliptical shape.

5. The light source of claim 1, wherein the first set of poles has an arc shape.

6. The light source of claim 5, wherein the first set of poles comprises four poles.

7. The light source of claim 5, wherein the first set of poles comprises two poles.

8. The light source of claim 1, wherein the light source is an excimer laser.

9. The light source of claim 2, wherein the light source is used for photolithography.

10. The light source of claim 9, wherein the first and second set of poles are adjusted to optimize depth of focus (DOF) tolerances.

11. A method comprising:

locating a first set of poles on a light source;

determining whether a first depth of focus (DOF) tolerance for a first pitch range is acceptable, and if the first DOF tolerance is not acceptable, adjusting the first set of poles;

locating a second set of poles on the light source; and

determining whether a second DOF tolerance for a second pitch range is acceptable, and if the second DOF tolerance is not acceptable, adjusting the second set of poles.

12. The method of claim 11, further comprising determining whether a mask error enhancement factor (MEEF) of the light source is acceptable, and if the MEEF is not acceptable, adjusting the first and second sets of poles.

13. The method of claim 11, wherein determining whether a DOF tolerance is acceptable comprises using a computer simulation.

14. The method of claim 11, further comprising using the light source for photolithography.

15. The method of claim 11, wherein the first set of poles comprises an outer set of arc-shaped poles, and wherein the second set of poles comprises an inner set of elliptical poles.

16. The method of claim 15:

wherein adjusting the first set of poles comprises moving the first set of poles and adjusting a size of the first set of poles; and

wherein adjusting the second set of poles comprises moving the second set of poles and adjusting a radius of the second set of poles.

17. An apparatus comprising:

a hybrid light source including a first set of poles and a second set of poles, the second set of poles is inside the first set of poles;

a mask beneath the hybrid light source, the mask including a pattern; and

a first lens between the light source and the mask, and a second lens between the mask and a substrate including a layer of photoresist to be patterned with the pattern.

18. The apparatus of claim 17, wherein the first set of poles is to pattern small pitch areas on the substrate, and the second set of poles is to pattern large pitch areas on the substrate.

19. The apparatus of claim 17, wherein the mask is an embedded phase shift mask (EPSM).

20. The apparatus of claim 17, wherein the first set of poles have an arc-shape, and wherein the second set of poles have an elliptical shape.

21. The apparatus of claim 17, wherein the first and second sets of poles are adjustable to change characteristics of the hybrid light source.

22. The apparatus of claim 17, wherein the second set of poles comprises four poles.

23. The apparatus of claim 22, wherein first set of poles comprises two poles.

24. The apparatus of claim 22, wherein the first set of poles comprises four poles.

25. The apparatus of claim 17, wherein the first set of poles are located approximately at an edge of the hybrid light source.

26. A method comprising:

generating a light using a light source including a first set of poles and a second set of poles closer to a center of the light source than the first set of poles; and

projecting the light through projection optics onto a layer of photoresist to form a pattern on the layer of photoresist.

27. The method of claim 26, further comprising:

locating the first set of poles including four arc-shaped poles at an edge of the light source; and

locating the second set of poles including four elliptical poles between the first set of poles and the center of the light source.

28. The method of claim 26, further comprising:

locating the first set of poles including two arc-shaped poles at an edge of the light source; and

locating the second set of poles including four elliptical poles between the first set of poles and the center of the light source.

29. The method of claim 26, wherein projecting comprises:

projecting the light through a first lens, a mask, and a second lens, and onto the photoresist.